

Empirical Methods in Short-Term Climate Prediction

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Dedication

To my late parents and teachers, Theresia E. M. Aengenent and H. M. van den Dool, Sr., as well as to my university professors in Utrecht, the late W. Bleeker and F. H. Schmidt. In naming them, I honor all my teachers.

Preface

This book is based on my personal life-long trip through the field of climate prediction. Specifically, the writing of a book was inspired by my teaching various courses in recent years, most notably a graduate course with Eugenia Kalnay at the University of Maryland entitled ‘Atmospheric and Oceanographic Statistics’, as well as the Climate Variations Course with several colleagues at the US National Weather Service (NWS). Similar inspiration was derived from outreach programs, where NWS personnel interact with user groups, as well as my recent presentations at conferences.

This book would have been impossible without the interaction with many colleagues over the years. To single out a few, Cor Schuurmans and Theo Opsteegh at the Royal Netherlands Meteorological Institute (KNMI) in the de Bilt, The Netherlands; Jerome Namias and John Horel at the Scripps Institution of Oceanography, La Jolla; William Klein, Ferdinand Baer and Ming Cai at the University of Maryland; Donald Gilman and David Rodenhuis at the Climate Analysis Center, and Eugenia Kalnay, Suranjana Saha, Jae Schemm, Jeff Anderson, Jin Huang at NCEP. I also want to acknowledge my co-forecasters at the Climate Prediction Center, Jim Wagner, Ed O’Lenic, Tony Barnston, Bob Livezey and David Unger. I must have spent months of my life collaborating, debating, and arguing with each of them.

Some of my colleagues may recognize their own work in specific parts of the text. This is especially true for Ming Cai, Peitao Peng, Jae Schemm, Suranjana Saha, David Unger and Jin Huang. The text of the ms improved a great deal as a result of careful reviews by Jeff Anderson, Ming Cai, Michelle L’Heureux, Åke Johansson, Tony Barnston, Ed O’Lenic and Cor Schuurmans. I also acknowledge the help of Jon Hoopingarner, David Unger, Suranjana Saha and Oxford University Press in preparing the figures.

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Finally, I would like to acknowledge the loving support and encouragement I received from my wife, Suru Saha, and both our families in the writing of this book.

Motto: There are two kinds of knowledge. First, there is the knowledge one learns from teachers along the way. Second, there is the knowledge that comes naturally by instinct or intuition, by ideas that come, seemingly, out of nowhere. It is the second kind of knowledge that I hope to impart to the reader of this book.